

Nathaniel Hendrix

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Education

2020 (exp.) PHD in health economics and outcomes research, The CHOICE Institute, University of Washington
2015 PHARM.D, University of Washington
2004 BA in English literature, Texas State University

Dissertation

Using health economics tools to enhance the clinical utility of machine learning-based diagnostic algorithms: a case-study in breast cancer screening.

Committee: David Veenstra (chair), Aasthaa Bansal, A. Brett Hauber, Christoph I. Lee

Aim 1: I will construct and administer a discrete choice experiment survey instrument to evaluate how changing the attributes of a hypothetical mammography interpretation algorithm affects the intention of primary care providers to refer their patients to a service using this algorithm.

Aim 2: Using a validated open source model, I will project the quality-adjusted life years (QALYs) associated with the use of algorithms submitted to the Digital Mammography DREAM Challenge, a collaborative competition held for the development of algorithms that interpret breast cancer screening images without radiologist supervision. I will use QALYs to optimize the cut-point that each algorithm uses to separate women who need diagnostic testing from those who do not, then compare performance using this method to receiver-operating curve-based methods of ascertaining cut-point.

Current positions

2018- Consultant (economic modeling, literature review), VeriTech Corporation, Seattle
2017- Consultant (economic modeling), PATH, Seattle
2016- Research assistant, University of Washington, Seattle

Areas of specialization

Cost-effectiveness modeling • Information technology in healthcare • Vaccines • Personalized medicine
• Clinical decision support

Previous positions

2016 Consultant (literature review), ISPOR Vaccines Task Force, Lawrenceville, NJ
2015-2016 Economic modelling specialist, PATH, Seattle
2013-2015 Pharmacy informatics intern, Virginia Mason Medical Center, Seattle
2013 Project assistant (The Literome Project), Microsoft Research, Redmond, Washington
2011-2013 Inpatient pharmacy intern, Virginia Mason Medical Center, Seattle

Grants, honors & awards

2018-2020 T32 pre-doctoral fellowship (Developing Data-Driven Cancer Researchers, PIs: Etzioni / Schwartz), National Cancer Institute
2018-2019 Pre-doctoral fellow in outcomes research, PhRMA Foundation
2015-2017 T32 pre-doctoral fellowship (Health Services Research Training, PI: Grembowski), Agency for Healthcare Research and Quality

Programming language proficiencies

R, SQL, VBA, \LaTeX

Publications & talks

JOURNAL ARTICLES

2019 F. Debellut, N. Hendrix, V. Pitzer, D. Costenla, N. Bar-Zeev, A. Marfin, and C. Pecenka. “Forecasting demand for the typhoid conjugate vaccine in low- and middle-income countries.” *Clinical Infectious Diseases*.
2018 F. Debellut, N. Hendrix, J. Ortiz, P. Lambach, M. Perut, K. Neuzil, N. Bhat, and C. Pecenka. “Forecasting demand for maternal influenza immunization in low- and lower-middle-income countries.” *PLOS ONE*. 2018 June 22.
2018a J. Carlson, D. Kim, G. Guzauskas, C. Bennette, D. Veenstra, A. Basu, N. Hendrix, D. Hershman, L. Baker, and S. Ramsey. “A pilot study integrating value of research analyses into NCI clinical trials cooperative group research review and prioritization process.” *Cancer Medicine*. 2018 July 20.
2018b N. Hendrix, D. Ollendorf, R. Chapman, A. Loos, S. Liu, V. Kumar, J. Linder, S. Pearson, and D. Veenstra. “Cost-effectiveness of targeted pharmacotherapy for moderate-to-severe plaque psoriasis.” *Journal of Managed Care and Specialty Pharmacy*. 2018 December.
2017 P. Mathias, N. Hendrix, K. Keyloun, M. Khelifi, P. Tarczy-Hornoch, and B. Devine. “Characterizing pharmacogenomic-guided medication use with a clinical data repository.” *Clinical Pharmacology and Therapeutics*. 2017 Jan 10.
2017a N. Hendrix, N. Bar-Zeev, D. Atherly, J. Chikafa, H. Mvula, R. Wachepa, A. Crampin, T. Mhango, C. Mwansambo, R. Heyderman, N. French, N. Cunliffe, and C. Pecenka. “The economic impact of childhood acute gastroenteritis on Malawian families and the healthcare system: a prospective cohort study.” *BMJ Open*. 2017 Sep 1.

2017b W. Canestaro, N. Hendrix, A. Bansal, S. Sullivan, B. Devine and J. Carlson. “Favorable and Publicly-Funded Studies are More Likely to be Published: A Systematic Review and Meta-Analysis.” *Journal of Clinical Epidemiology*. 2017 Aug 22.

NON-PEER-REVIEWED PUBLICATIONS

2018 O. Olasupo, P. Rai, H. Eldabbas, K. Modi, M. Rezkalla, M. Woloshin, N. Hendrix, B. Adamson, and L. Garrison. “By the Numbers: Cancer Immunotherapy.” *Value & Outcomes Spotlight*. 2018 January / February.

2017 J. Linder, S. Pearson, D. Ollendorf, R. Chapman, V. Kumar, C. Segal, A. Loos, S. Liu, D. Veenstra, and N. Hendrix. “Targeted immunomodulators for the treatment of moderate-to-severe plaque psoriasis: effectiveness and value.” Institute for Clinical and Economic Review. https://icer-review.org/wp-content/uploads/2016/11/NE_CEPAC_Psoriasis_Evidence_Report_FINAL_012317.pdf

ABSTRACTS

2018 N. Hendrix, B. Adamson, A. Basu, and B. Devine. “Increasing trend toward reporting significant digits in utility weights—behavior implications of ‘flat of the curve’ medicine?” ISPOR Annual Meeting, Baltimore, Maryland. May 2018.

2018a D. Dhanda, D. Regier, D. Veenstra, A. Basu, J. Saha, N. Hendrix, and J. Carlson. “What US health-care providers value in genomic precision medicine: a discrete choice experiment.” ISPOR Annual Meeting, Baltimore, Maryland. May 2018.

2017 N. Hendrix, D. Ollendorf, R. Chapman, A. Loos, S. Liu, V. Kumar, J. Linder, S. Pearson, and D. Veenstra. “Cost-effectiveness of targeted therapy for moderate-to-severe plaque psoriasis: an analysis based on Institute for Clinical and Economic Review (ICER) report.” ISPOR Annual Meeting, Boston, Massachusetts. May 2017

2017a N. Hendrix, N. Simon, and B. Devine. “Funder effects on reporting of health-state utilities.” AcademyHealth Annual Meeting, New Orleans, Louisiana. June 2017

2017b J. Carlson, D. Kim, G. Guzauskas, C. Bennette, D. Hershman, L. Baker, N. Hendrix, A. Basu, D. Veenstra, and S. Ramsey. “Impact of value of research analyses on SWOG’s clinical trial capsule scoring.” ASCO Annual Meeting, Chicago, Illinois. June 2017.

2016 L. Chin, P. Mathias, N. Hendrix, W. Wang, K. Keyloun, M. Khelifi, P. Tarczy-Hornoch, and B. Devine. “Leveraging a clinical data repository to characterize the landscape of pharmacogenomic biomarker-guided medication use.” Academy of Managed Care Pharmacy Nexus, Baltimore, Maryland. October 2016.

2016a N. Hendrix, C. Pecenka, J. Chifaka, R. Wachepa, H. Mvula, R. Heyderman, N. French, N. Cunliffe, N. Bar-Zeev, and D. Atherly. “Household costs for treatment of rotavirus-associated diarrheal disease in Malawi.” Twelfth International Rotavirus Symposium, Melbourne, Australia. September 2016.

2016b N. Hendrix and B. Devine. “Deriving utility weights from patient-reported outcomes in epilepsy.” ISPOR Annual Meeting, Washington, DC. May 2016.

2016c D. Quach, J. Babigumira, and N. Hendrix. “Dinutuximab for high-risk neuroblastoma: a cost-utility analysis.” Academy of Managed Care Pharmacy Annual Meeting, San Francisco, CA.

2015 N. Hendrix, C. Pecenka, and C. Keech. “Methods for estimating the global impact of an RSV vaccine.” RSV Vaccines for the World, La Jolla, CA.

2015a B. Devine, M. Khelifi, K. Keyloun, N. Hendrix, P. Mathias, C. Bock, and P. Tarczy-Hornoch. “Characterizing the frequency of pharmacogenomic biomarker guided prescribing for drugs with pharmacogenomic biomarker information in the FDA labeling: a pilot study using data from an electronic health record.” American Medical Informatics Association Annual Meeting, San Francisco, CA.

Professional memberships

2017-2018	President, University of Washington student chapter of <i>ISPOR</i>
2016-2017	Vice president, University of Washington student chapter of <i>ISPOR</i>
Since 2015	Member, <i>ISPOR</i>
Since 2013	Member, <i>Academy of Managed Care Pharmacy</i>

Service to the profession

2019	Reviewer, <i>European Journal of Health Economics</i>
2018-2019	Chief student editor, <i>Incremental Thoughts: The CHOICE Institute's Student Blog</i>
2017-2018	Reviewer, <i>PLoS One</i>
2016	Reviewer, <i>Value in Health</i>

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